AMENDMENTS TO THE CLAIMS

1. (Previously Presented) A method of supporting mobility in an Internet Protocol version 6 (IPv6)-based data network, the method characterised by the steps of:

generating a first stateful IPv6 autoconfiguration message at a mobile node, wherein said message contains an IP address capable of use for route maintenance to and from said mobile node;

transmitting, by said mobile node, said generated message to a first access node, where said access node adds an IP address of said access node to said message;

forwarding said generated message, by said first access node, to a dynamic host configuration protocol (DHCP) Server;

analysing said message, at said DHCP server, to determine a route to deliver data one or more of to said mobile node and from said mobile node;

analysing said message, at said access node, to determine a route to deliver data one or more of to said mobile node and from said mobile node;

triggering one or more route update messages from said access node and said DHCP server to a number of network elements between said access node and said DHCP server in the IP based data network, wherein said one or more route update messages from said access node and said DHCP server are triggered substantially simultaneously;

repeating said steps of generating, transmitting and forwarding for a second stateful IP autoconfiguration message that confirms the IP address of said mobile node when said mobile node attaches to a second access node, where said second access node substitutes its address in said second message; and

in response to receiving said second stateful IP autoconfiguration message, generating one or more route update messages by said second access node and said DHCP server.

2. (Previously Presented) The method of supporting mobility according to Claim 1, herein generating one or more route update messages in response to receiving said second stateful IP autoconfiguration message comprises the steps of:

analysing said second stateful IPv6 autoconfiguration message at said DHCP Server to determine that said address used for route maintenance in said second message is inconsistent with said address analysed in said first message; and

triggering a route update message based on said determination.

3. (Previously Presented) The method of supporting mobility according to Claim 2, the method further characterised by the step of:

transmitting, in response to said determination, a deletion message to said first access node or said second access node and a number of network elements between said DHCP Server and said first access node or said second access node, where the deletion message instructs said number of network elements to delete obsolete address information used for route maintenance to/from said mobile node.

4. (Previously Presented) The method of supporting mobility according to Claim 1, wherein one or more of said first and~~/or~~ second stateful Internet Protocol autoconfiguration message<u>s</u> is a DHCPv6 'CONFIRM' message.

5. (Previously Presented) The method of supporting mobility according to Claim 1, wherein said address information used for route maintenance is based on Triggered routing information protocol (RIP).

6. (Previously Presented) The method of supporting mobility according to Claim 1, further characterised by the step of:

updating route maintenance information by a plurality of nodes in the IP-based data network, wherein the plurality of nodes comprises one or more of a DHCP Server, a DHCP Relay, an Access router, and an intermediate router.

7. (Currently Amended) An Internet Protocol version 6 (IPv6)-based data network that is operable to generate a first stateful IP autoconfiguration message at a mobile node, wherein said message contains an address capable of use for route maintenance to and

from said mobile node, the network comprising hosts including one or more of an access node, a dynamic host configuration protocol (DHCP) Relay, and a DHCP Server, the network comprising:

a means for receiving a stateful IPv6 autoconfiguration message from said mobile node, wherein said message comprises a mobile node IP address capable of use for route maintenance to deliver data to, and receive data from, said mobile node; and

a means for analyzing said message to determine a route to one or more of deliver data ~~one or more of~~ to, ~~said mobile node~~ and receive data from, said mobile node; and

a means for triggering transmission of one or more route update message from said access node and said DHCP Server to a number of network elements between said access node and ~~a~~ said DHCP server in the IPv6-based data network, wherein said one or more route update messages from said access node and said DHCP server are triggered substantially simultaneously.

8. (Previously Presented) The network of claim 7, wherein said means for receiving receives, from a second access node, a second stateful IPv6 autoconfiguration message that confirms the IP address acquired by said mobile node prior to accessing said second access node, wherein said second access node adds its address to said second message.

9. (Previously Presented) The network according to Claim 8, wherein said DHCP Server receives and analyses the second stateful IPv6 autoconfiguration message to determine whether said IP address therein is consistent with a set of addresses maintained by the DHCP Server in association with the mobile node.

10. (Previously Presented) The network according to Claim 9, further characterised by said means for triggering, in response to said determination of whether said IP address therein is consistent with a set of addresses maintained by the DHCP Server in association with the mobile node, triggering one or more route update messages to one or

more of said first access node and said second access node to delete obsolete address information used for route maintenance to and from said mobile node.

11. (Canceled)

12. (Previously Presented) The network according to Claim 9, wherein one or more of said stateful IPv6 autoconfiguration messages is an IPv6 stateful autoconfiguration 'CONFIRM' message.

13. (Currently Amended) The network according to Claim 9, further characterised by [[:]] a memory element, operably coupled to said means for analyzing, containing a router table for storing route maintenance information extracted from said IP message.

14. (Canceled)

15. (Previously Presented) The network according to Claim 8, wherein one or more of said first access node and said second access node are Access Routers collocated with DHCPv6 Relay functions.

16. (Previously Presented) The network according to Claim 8, wherein the network includes a number of routers located one or more of between said first access node and said DHCP Server and between said second access node and said DHCP Server in a substantially tree-type topology.

17. (Previously Presented) The network according to Claim 8, wherein a communication link one or more of between said mobile node and said first access node and between said mobile node and said second access node is a wireless access media communication link to facilitate a wireless link.

18. (Previously Presented) An IPv6 communication message transmitted from a DHCP Server to an access node via a number of routers, wherein the IPv6 communication message comprises one or more of route deletion instructions and address deletion instructions generated in accordance with Claim 3.

19. (Previously Presented) A storage medium storing processor-implementable instructions to carry out the method according to Claim 1.

20. (Previously Presented) An apparatus adapted to perform the method steps according to Claim 1.

21-22. (Cancelled)